

**METHODS OF MAKING REPETITIVE SEQUENCES REMOVED
PROBES AND USE THEREOF**

ABSTRACT

The invention discloses novel methods and compositions for the detection of a target nucleic acid molecule in a sample. In particular, the invention provides a method of producing a probe having removed repetitive sequences comprising: (a) providing a source nucleic acid molecule containing repetitive sequences; (b) providing a driver nucleic acid molecule attached to a label and containing repetitive sequences that hybridize with the repetitive sequences of the source nucleic acid molecule; (c) hybridizing the source nucleic acid molecule and the driver nucleic acid molecule in the presence of a molecule that binds the label of step (b) wherein the repetitive sequences of source nucleic acid molecule hybridize with the repetitive sequences of the driver nucleic acid molecule to form a product; (d) subtracting the hybridized repetitive sequences of the product of step (c) by extraction with a protein dissolving solution to remove the hybridized repetitive sequences from the product; and (e) recovering the probe having repetitive sequences removed therefrom.